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CLAIMS

1. A fuel cell assembly (1) comprising:
a fuel cell stack (2) formed by laminating a plurality of cells;
plus and minus current extraction sections (4), the current extraction sections extracting current generated by the fuel cell stack and sandwiching the fuel cell stack with respect to the direction of lamination; and
a passage (4a) allowing flow of a fluid provided in at least one of the current extraction sections.
2. The fuel cell assembly as defined in Claim 1, wherein each current extraction section comprises a current extraction plate (5a, 6a) for extracting the generated current and an end plate (5b, 6b) for uniformly binding the cells of the fuel cell stack, and wherein the passage (5c, 6c) for the fluid is formed between the current extraction plate and the end plate.
3. The fuel cell assembly as defined in Claim 1, wherein each current extraction section comprises a current extraction plate (8a, 9a, 10a) for extracting the generated current and an end plate (8b, 9b, 10b) uniformly binding the cells of the fuel cell stack, the passage (8c, 9c, 10c) being formed inside at least one of the current extraction plate and the end plate.
4. The fuel cell assembly as defined in Claim 1, wherein the fluid is cooling water for cooling the fuel cell stack.
5. A fuel cell system comprising:
a fuel cell assembly (1) comprising:
a fuel cell stack (2) formed by laminating a plurality of cells;
plus and minus current extraction sections (4), the current extraction sections extracting current generated by the fuel cell stack and sandwiching the fuel cell stack with respect to the direction of lamination;
a passage (4a) allowing flow of a fluid provided in at least one of the current extraction sections;
and
a heating device (24, 26, 32, 90) for heating the passage for the fluid.

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6. The fuel cell system according to Claim 5, wherein the fluid is combustible and the heating device comprises a catalyst (90) applied to the passage in order to combust the fluid.
7. The fuel cell system according to Claim 5, wherein the heating device (24) heats the fluid and supplies the heated fluid to the passage (4a).
8. The fuel cell system according to Claim 5, wherein the fluid is combustible and the heating device comprises an ignition device for combusting the fluid.
9. The fuel cell system according to Claim 5, wherein the heating device heats at least one of the current extraction sections when the fuel cell stack is started up.
10. The fuel cell system according to Claim 9, wherein the heating device comprises means for combusting cathode gas for the fuel cell stack and the heating device heats at least one of the current extraction sections using the heat of combustion.
11. The fuel cell system according to Claim 9, wherein the heating device comprises means for combusting a gaseous mixture of cathode gas and anode gas for the fuel cell stack and the heating device heats at least one of the current extraction sections using the heat of combustion.
12. The fuel cell system according to Claim 9, wherein the heating device comprises means for supplying anode gas for the fuel cell stack to the current extraction sections after supplying cathode gas for the fuel cell stack to the current extraction sections and means for combusting the gaseous mixture of anode gas and cathode gas.
13. The fuel cell system according to Claim 11 or Claim 12, wherein the anode gas is an anode gas discharged from the fuel cell stack.
14. The fuel cell system according to Claim 5, wherein each current extraction section comprises a current extraction plate (5a, 6a) extracting the generated current and an end plate (5b, 6b) uniformly binding the cells of the fuel

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cell stack, and wherein the passage (5c, 6c) for the fluid is formed between the current extraction plate and the end plate.

15. The fuel cell system according to Claim 5, wherein the current extraction section comprises a current extraction plate (8a, 9a, 10a) for extracting the generated current and an end plate (8b, 9b, 10b) uniformly binding the cells of the fuel cell stack, and wherein the passage (8c, 9c, 10c) is formed in at least one of the current extraction plate and the end plate.

16. A fuel cell assembly (1) comprising:
a fuel cell stack (2) formed by laminating a plurality of cells;
plus and minus current extraction sections (4), the current extraction sections extracting current generated by the fuel cell stack and sandwiching the fuel cell stack with respect to the direction of lamination; and
an enclosed cavity (4a) for confining fluid therein formed in at least one of the current extraction sections.

17. The fuel cell assembly as defined in Claim 16, wherein each current extraction section comprises a current extraction plate (5a, 6a) for extracting the generated current and an end plate (5b, 6b) for uniformly binding the cells of the fuel cell stack, and wherein the enclosed cavity (5c, 6c) is formed between the current extraction plate and the end plate.

18. The fuel cell assembly as defined in Claim 16, wherein each current extraction section comprises a current extraction plate (8a, 9a, 10a) for extracting the generated current and an end plate (8b, 9b, 10b) uniformly binding the cells of the fuel cell stack, the enclosed cavity (8c, 9c, 10c) being formed inside at least one of the current extraction plate and the end plate.